

REMARKS

I. Introduction

Claim 93 has been amended to correct the noted informality. The anticipation and obviousness rejections are respectfully traversed for the reasons set forth below.

II. The Anticipation Rejections of Independent Claims 1, 28, 37, 64, 73, and 100

Independent claims 1, 28, 37, 64\*, 73, and 100 were rejected under § 102(b) as being anticipated by Brown US Patent No. 5,822,530. The Examiner acknowledges, however, that various claimed features\*\*are not actually disclosed by Brown, but expresses the view that these claims are anticipated because Brown discloses allegedly "equivalent" elements (see p. 4 of the Office action).

This is not the test for anticipation. To anticipate a claim, "[e]very element of the claimed invention must be literally present, arranged as in the claim.... The identical invention must be shown...." *Richardson v. Suzuki*

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\*Applicants believe that the Examiner intended to list claim 64 instead of claim 63 in the 102(b) rejection of paragraph 5.

\*\*The claimed features are "providing an option for the transmission of the on-demand media..." (claims 1, 28, 37, 64, 73, and 100) and "presenting the available bandwidth to the user..." (claims 1, 37 and 73).

*Motor Co., LTD.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989) (emphasis added); see also MPEP § 2131; *Lewmar Marine, Inc. v. Barient, Inc.*, 827 F.2d 744, 747-48 (Fed. Cir. 1987). Anticipation may not be shown by equivalents, and to conclude otherwise is legal error. 868 F.2d at 1236-37. On this basis alone the § 102(b) rejections should be withdrawn.

Moreover, these claims are patentable over Brown for the additional reason that the cited elements of Brown are not equivalents to applicant's claimed features (and hence do not even rise to the level of rendering applicant's claims obvious, especially when the claims as a whole are considered). To "direct" the user to an NVOD presentation as disclosed by Brown is not equivalent to applicant's claimed approach of providing an option for the transmission of the on-demand media. It is the opposite - it only allows the user to view something that is NOT transmitted on-demand. And, unlike applicant's claimed approach, the user of Brown's system has no ability to affect (i.e., demand), at the user's option, when or how content is transmitted should the system be unable to provide the VOD program in the first instance (see, for example, the illustrative options in applicant's FIG. 14). In NVOD, media is transmitted according to fixed parameters set by the system provider.

Nor is Brown's approach equivalent to applicant's claimed approach of presenting the available bandwidth to the user. Actually informing the user of the available bandwidth allows the user in some embodiments, for example, to determine readily whether or not some other specific on-demand media may fit within the system's available bandwidth. This is a more convenient, simpler and more efficient approach for allowing the user to find on-demand media than that of Brown's. In Brown, the user must make sequential VOD requests and reject viewing the NVOD session for each requested VOD program. Eventually the user may find a program that fits in the available bandwidth, but only after failing to obtain a number of other VOD programs first (see col. 6, lines 19-36).

### III. The Obviousness Rejections of Independent Claims 29, 65, 101

Independent claims 29, 65 and 101 were rejected under § 103 as being obvious over Brown in view of Haddad US 2005/0097619. While identity of invention is not required for an obviousness rejection, it is clear from the Office action that the Examiner is using Brown for the same features as those included in the claims identified in Section II. Accordingly, for the reasons set forth above in Section II these claims cannot be rendered obvious by the Brown/Haddad

combination at least because all of the claimed features are not disclosed by the combination.

IV. The Dependent Claims

For brevity, applicants will not separately address the patentability of the dependant claims other than to say that they are patentable at least because a case of unpatentability has not been made against the independent claims from which they depend. See *In re Fine*, 837 F.2d 1071, 1076 (Fed. Cir. 1988). Applicants reserve the right to argue the separate patentability of these claims should prosecution continue.

V. Request for Acknowledgment of Information Disclosure Statement

On July 17, 2002, applicants filed an Information Disclosure Statement in connection with the above-identified patent application identifying, among other references, Japanese Patent Publication No. JP60061935. Applicants submitted therewith a Form PTO-1449 listing the aforementioned reference. However, this reference which was listed on the copy of Form PTO-1449 returned with the May 18, 2006 Office Action has not been initialed by the Examiner. The Examiner's contention in relation to Patent Publication No. JP60061935

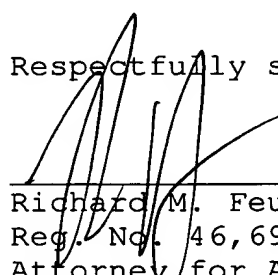
Appl. No. 09/973,976  
Reply dated August 15, 2006  
Reply to Office Action of May 18, 2006

has been noted. Applicants hereby submit a copy of Japanese Patent Publication No. JP60061935 and of an English abstract of the publication for consideration by the Examiner. Applicants respectfully request that a fully initialed copy of said Form PTO-1449, as considered by the Examiner, be returned with the next communication. The Director is hereby authorized to charge payment of any fees required in connection with this submission to Deposit Account No. 06-1075 (Order No. 003597-0207). A duplicate copy of this Reply to Office Action is transmitted herewith.

VI. Conclusion

For the reasons set forth above, this application is in condition for allowance. Entry of the amendments and prompt allowance are respectfully requested.

Respectfully submitted,



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# MAGNETIC RECORDING AND REPRODUCING DEVICE

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Publication date: 1985-04-09

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Applicant: MATSUSHITA ELECTRIC IND CO LTD

Classification:

- international: G11B15/02; G05B19/16; G11B15/10; G11B25/04;  
H04N5/76; G11B15/02; G05B19/04; G11B15/10;  
G11B25/04; H04N5/76; (IPC1-7): G05B19/16;  
G11B15/02; G11B15/10; G11B25/04

- european:

Application number: JP19830169967 19830913

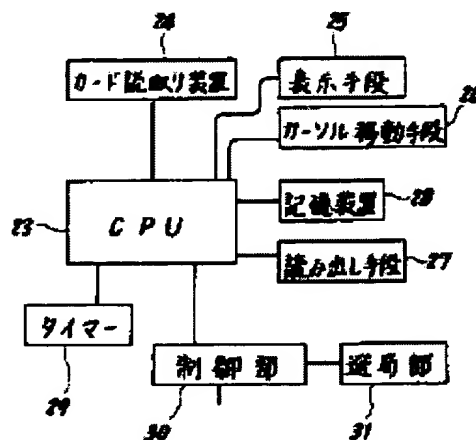
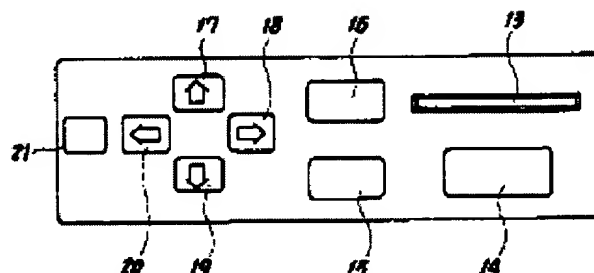
Priority number(s): JP19830169967 19830913

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## Abstract of JP60061935

**PURPOSE:** To facilitate an easy video recording procedure such as the reservation of timer, etc. by recognizing a table of programs, for example, recorded on a recording card by means of a cursor provided on a monitor TV screen to store the table to a memory and actuating a built-in timer and channel selection part according to the contents of storage.

**CONSTITUTION:** A recording card is put into a card slit 13 and a display button 14 is pushed to display the contents of the card on a TV screen. Then the information on TV programs are arrayed on each row. A cursor button 17 is pushed to set a cursor at the left end of a prescribed row. Then a recognition button 15 is pushed to display an asterisk mark at the right end of the same row. Thus the video recording is set by a timer 29. The information on this timer recording is stored in a memory 28 and then read out by the timer 29 at a prescribed time point. Then a control part 30 works perform the video recording of a program of a prescribed channel at a prescribed time point. A confirmation button 21 is pushed after setting the video recording to display an asterisk mark at the right end of the row. Then only the contents with which the video recording is set by the timer are displayed successively and can be confirmed assuredly.



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⑨ 日本国特許庁(JP)

⑩ 特許出願公開

⑫ 公開特許公報(A)

昭60-61935

⑬ Int.Cl.<sup>4</sup>

識別記号

庁内整理番号

⑭ 公開 昭和60年(1985)4月9日

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G 11 B 15/10  
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7740-5H  
D-7220-5D  
8322-5D

審査請求 未請求 発明の数 1 (全9頁)

⑮ 発明の名称 磁気記録再生装置

⑯ 特 願 昭58-169967

⑰ 出 願 昭58(1983)9月13日

⑱ 発 明 者 橋 本 直 樹 門真市大字門真1006番地 松下電器産業株式会社内  
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明 細 書

1. 発明の名称

磁気記録再生装置

2. 特許請求の範囲

1. 記憶すべき手続きを記録した記録媒体を再生してディスプレイ画面上に前記記憶すべき手続きを表示する表示手段と、前記ディスプレイ画面上に自由にカーソルを移動させるカーソル移動手段と、前記ディスプレイ画面上の前記カーソルにより認識された記憶すべき手続きだけを読み出す読み出し手段と、この読み出し手段により読み出された記憶すべき手続きを記憶する記憶装置と、この記憶装置に記憶された記憶すべき手続きに拾って所定日時に記憶すべき手続きを読み出すタイマーと、このタイマーによって読み出された記憶すべき手続きに拾って磁気記録再生装置本体を作動させる制御部と、前記記憶装置に記憶された記憶すべき手続きのみを前記ディスプレイ画面上に表示させる表示手段とを備え、前記カーソルにより認識され、

前記記憶装置に記憶された記憶すべき手続きにより、所定日時に、前記制御部により磁気記録再生装置本体を作動させた後に、作動を終了した分の記憶すべき手続きには、前記ディスプレイ画面上にて作動を終了した事を表示する構成とした磁気記録再生装置。

3. 発明の詳細な説明

産業上の利用分野

本発明は磁気記録再生装置に関するものである。従来例の構成とその問題点

従来の例えば家庭用ビデオテープレコーダ(以下VTRと記す)においては、プログラムタイマー録画というこの家庭用VTRが持つ大きな機能を利用するにあたり、下記に説明するような複雑な手順を必要としていた。これについて第1図～第15図を用いて説明する。第1図は従来の家庭用VTRの斜視図、第2図は同VTRのタイマー表示部及びタイマー操作部の拡大正面図で、1は作動切換スイッチ、2はプログラムボタン、3は録画開始ボタン、4は録画終了ボタン、5はタイマ

—明るさ切換スイッチ、6は分設定ボタン、7は時間設定ボタン、8は曜日設定ボタン、9はデジタル表示部、10は秒点滅表示素子である。操作手順について例をあげて説明する。本日が月曜日とし、1週目の火曜日（即ち翌日）の19時より録画開始、20時30分に録画終了、録画チャンネル10チャンネルを設定する。

- ① 本機の電源スイッチを「入」にしてから、タイマー操作部のカバーをあけてください。（第3図）

タイマー操作部の右上部を押すと、カバーが少しひらきます。

完全にひらいてからタイマーの操作を行なってください。

約60分以上の停電があったときや、電源コードを約60分以上コンセントから抜いていたときは、図のように表示されて点滅します。

- ② タイマーセットスイッチが「切」になっていることを確認します。（第4図）

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「1. 2. 3. 4. 5. 6. 7. 毎週」の点滅が消え、「1」が表示されてデジタル表示部9の左側に「開始」が点滅を始めます。

プログラムボタン2を押し続けていると、「1. 2. 3. 4. 5. 6. 7. 毎週. 1. 2. ……毎週」と順々に表示してゆきます。

- ③ 録画開始ボタン3を押します。（第7図）

「開始」の点滅がとまり、きょうの曜日、現在時刻、1週目のプログラムを示す「0」が点灯します。

- ④ 曜日設定ボタン8を押して「火」曜日に合わせます。（第8図）

押し続けると曜日表示が進んで、2週目には「00」の表示がでます。

行きすぎたときは、曜日設定ボタン8の戻しボタンを押して戻してください。

- ⑤ 時間設定ボタン7を押して、「19」時に合わせます。（第9図）

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- ⑥ タイマー部をあけて、作動切換スイッチ1を「番組予約」にします。（第5図）

現在時刻の表示が消えて、デジタル表示部9の下側に「1. 2. 3. 4. 5. 6. 7. 毎週」の8プログラムが点滅を始めます。

点滅はプログラムセットされていない空プログラムを示しています。

すでに予約されてあるプログラムは点滅をしないで点灯したままになっています。

また、録画が終わったプログラムも点滅しています。（ただし、毎日録画、毎週録画にセットされたプログラムは点灯したままです）

このとき、チャンネル表示ランプは、最後に受信されたチャンネルのランプが点灯しています。

- ⑦ プログラムボタン2を押します。（第6図）

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- ⑧ 分設定ボタン6を押して「00」分に合わせます。（第10図）

これで録画開始時刻（第1週目火曜日19時00分）がプログラムされました。分設定ボタン6から指を離すと、約1秒後に、「開始」が点灯したまま「終了」の表示が点滅を始めます。

分設定ボタン6を押さない場合は「終了」の点滅はされませんが、録画終了時刻の設定をするために⑩の操作に移ることはできます。

- ⑨ 録画終了ボタン3を押して録画終了時刻（20時30分）をセットします。（第11図）

「開始」が消えて、「終了」の点滅がとまります。

- ⑩ 時間設定ボタン7を押して「20」時に合わせます。（第12図）

曜日設定ボタン8を押しても曜日は変わりません。

分設定ボタン6を押して「30」分に合わ

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せます。(第13図)

二日にまたがったのプログラム録画の場合は、自動的に曜日の表示が進みます。

録画終了時刻の時、分の設定が録画開始時刻より前になると、曜日の表示は自動的に次の曜日に進みます。

録画したい番組のチャンネル(10チャンネル)を、本機のチャンネル選局ボタンで選びます。(第14図)

押したチャンネルのチャンネル表示ランプが点滅を始めます。

(ご注意)

現在受信中のチャンネル表示ランプは点灯したままです。

希望するチャンネルの選局を忘れると、現在受信中のチャンネルがプログラムされてしまいます。

現在受信中のチャンネルを予約する場合は、チャンネル選局ボタンを押しても、チャンネル表示ランプは点滅しませんが、プ

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ログラムセットはできます。

作動切換スイッチを「通常動作」に切換えて、タイマーセットスイッチを「入」にします。(第15図)

ビデオカセットがカセットホルダーにそう入されていると、タイマーセット表示ランプが点灯します。

ビデオカセットの“つめ”が折れていた、ビデオカセットがそう入されていない場合は、タイマーセット表示ランプは点滅しません。

このようにして1つの番組が設定された(いわゆるタイマー予約)わけである。この後、いま操作した予約がはたして操作者の希望通りの設定になっているか確認する、確認のための操作が別途あるが、これについては省略する。

このように、従来の例えば家庭用VTRにおけるプログラムタイマーの設定は、適確な判断及び操作が必要とされ、またそれらの操作が順序通り正確になれないと所定の目的通りの予約ができない

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いものであり、これを主に使用すると思われる一般家庭のすべての人に満足して使っていただけるようなものとは言えなかった。

発明の目的

本発明は上記従来の欠点を解消するもので、タイマー予約等に代表されるような録画手続きを容易に設定する事のできる磁気記録再生装置を提供することを目的とする。

発明の構成

上記目的を達成するため、本発明の磁気記録再生装置は、記憶すべき手続きを記録した記録媒体を再生してディスプレイ画面上に前記記憶すべき手続きを表示する表示手段と、前記ディスプレイ画面上に自由にカーソルを移動させるカーソル移動手段と、前記ディスプレイ画面上の前記カーソルにより認識された記憶すべき手続きだけを読み出す読み出し手段と、この読み出し手段により読み出された記憶すべき手続きを記憶する記憶装置と、この記憶装置に記憶された記憶すべき手続きに沿って所定日時に記憶すべき手続きを読み出す

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タイマーと、このタイマーによって読み出された記憶すべき手続きに沿って磁気記録再生装置本体を動作させる制御部と、前記記憶装置に記憶された記憶すべき手続きのみを前記ディスプレイ画面上に表示させる表示手段とを備え、前記カーソルにより認識され、前記記憶装置に記憶された記憶すべき手続きにより、所定日時に、前記制御部により磁気記録再生装置本体を動作させた後に、作動を終了した分の記憶すべき手続きには、前記ディスプレイ画面上にて作動を終了した事を表示する構成としたものである。

実施例の説明

以下、本発明の一実施例について、図面に基づいて説明する。

第16図はモニター用の受像機(以下モニターTVと記す)が接続された磁気記録再生装置の斜視図で、11は磁気記録再生装置本体、12はモニターTV、13は磁気記録再生装置本体11とモニターTV12とを接続する接続線、11aは磁気テープを内蔵したカセット(図示せず)を出し入れするため

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に昇降するカセット装置部、11b はチャンネル選局部、11c はタイマー録画のための操作部の蓋であり、前記蓋11cを開いた状態を第17図に、また蓋の内部の操作部を第18図に示す。なお第18図において、13はカード挿入口、14は記録カードの記録内容を表示させる表示ボタン、15は認識ボタン、16は削除ボタン、17~20はそれぞれ矢印の方向にモニターTV12の画面上でカーソルを動かすためのカーソルボタン、21は認識ボタン15によって認識された内容を表示させ、確認するための確認ボタンである。前記カード挿入口13には、第19図に示すような記録カード22が挿入される。この記録カード22は、図中に斜線を施した記録部分22aを有し、この記録部分22aは、例えば基本材質が有機コロイドによって作られ、レーザービームによって直径5ミクロン程度の孔を1つのデータビットとして持ち、12ミリ×75ミリの大きさで、その中に500万ビット程度の情報が記録されている。矢印Aは記録カード22の挿入方向を示す。

第23図は全体のブロック図で、23は中央制御装

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する場合、先ず磁気記録再生装置本体11のタイマー録画のための操作部の蓋11cを開き、カード挿入口13に記録カード22を挿入する。この記録カード22には、1箇月間のこの地域で視聴可能なTV放送番組が記録されている。記録カード22を挿入した後、表示ボタン14を押すと、第21図のように、モニターTV12の画面上に記録カード22の内容の第1頁目が表れる。ここでP1は第1頁目が表示されている事を表わしており、次の行からTV番組の情報が並んでいる(3行目よりあとは省略している)。P1の次の行について、左から、日、時、番組タイトル、選局番号となっている。第21図において、Pの下にあるのがカーソルである。次にカーソルボタン17を押すと、1回押すごとにカーソルが下降してくる。例えば、5月5日の7:00~7:20にある1chのニュースをタイマー録画設定する場合を考えると、カーソルを動かして第22図の如く所定の行の左端へカーソルを位置させる。そして次に認識ボタン15を押すと、第23図のようにこの行の右端に\* (アスタリスク)

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印(以下CPUと記す)であり、このCPU23により、カード読取り装置24、ディスプレイに表示する表示手段25、カーソル移動手段26、読み出し手段27、記憶装置28、タイマー29、及び制御部30が制御されており、制御部30には、選局部31及び磁気記録部(図示せず)が接続されている。前記表示手段25は、カード読取り装置24により再生されたディスプレイ画面すなわちモニターTV12上に記憶すべき手続きを表示し、前記カーソル移動手段26は、前記ディスプレイ画面上に自由にカーソルを移動させ、前記読み出し手段27は、前記ディスプレイ画面上のカーソルにより認識された記憶すべき手続きのみを読み出し、前記記憶装置28は、前記読み出し手段27により読み出された記憶すべき手続きを記憶し、前記タイマー29は、前記記憶装置28に記憶された記憶すべき手続きに沿って所定日時に記憶すべき手続きを読み出し、前記制御部30は、前記所定日時に磁気記録再生装置本体11を作動させるものである。

次に動作を説明する。タイマー記録をしようと

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のマークが表われ、タイマー録画が設定される。なおこれを解除する場合は、解除すべき行の左端にカーソルを位置させて、削除ボタン16を押す。これにより\*のマークが消え、タイマー録画設定が解除される。タイマー録画が設定されると、その情報は磁気記録再生装置本体11の記憶装置28に記憶され、所定日時にタイマー29によって、この記憶が読み出され、制御部30によって、所定日時、所定放送局の番組を所定時間録画作動する。また設定後に確認ボタン21を押すと、行右端に\*マークが表れて、タイマー録画が設定された内容(プログラム)のみが順に表示され、これにより何がタイマー録画設定されたかを確実に確認できる。次に所定時間が経過し、タイマー録画が設定されていた内容(プログラム)のうちの あるものが録画を終了した時、確認ボタン21を押すと、タイマー録画が設定された内容(プログラム)のみが表示されるなかで、前述の録画を終了したものについてのみ、その内容(プログラム)の行左端にも\* (アスタリスク) マークが表われ、これにより

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このプログラムが録画を完了した事が確認できる。

なお上記実施例においては、記録媒体として記録カード22を用いた例について説明したが、例えば印刷物の上をバーコードリーダーのようなもので記録データを取り込む等、記録媒体及びその情報の取り込み方法については種々の方式を採用できることは勿論である。

また上記実施例においては、いわゆる放送番組等のタイマー録画に応用した例について説明したが、本発明の磁気記録再生装置は、例えば銀行、商店等に用いられる磁気記録装置を含む監視システム等においても有効に利用できる。すなわち、複数のカメラがつながった監視用VTRにおいては、記録カードに1日のうち例えば8時から10時までは正門前のカメラ、12時から13時までは東門付近のカメラ等というような内容を記録しておけば、操作者は、監視システムの管理上の特質、四季の移り変わり、周囲の環境条件、あるいは監視システム機材の変更に伴って、最も適切な監視ルーチンを容易に選択し作り出す事ができ、又こ

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れは必要な時には容易に変更し得るものであり、実用上のメリットは非常に大きい。

#### 発明の効果

以上説明したように本発明によれば、記録カードに記録された、例えば番組表を、モニターTV上に表示し、それを画面上のカーソルによって認識させ、それによりその情報を磁気記録再生装置内の記憶装置に記憶し、その記憶内容に連動して内蔵タイマー及び選局部が作動するようにしたので、ごく簡単な操作により、いわゆるタイマー予約等に代表されるような録画手続きを容易に設定し得る。また確認手段により、予約されている内容のみを表示できるので、確認操作を容易かつ確実に行い得る。さらに、タイマー録画を完了したものについては、そのプログラムのみがディスプレイ画面上に特定のマークで区別されるので、録画が完了した事を見して認知し得る。

#### 4. 図面の簡単な説明

第1図は従来の家庭用VTRの外観斜視図、第2図は同VTRのタイマー表示及びタイマー操作

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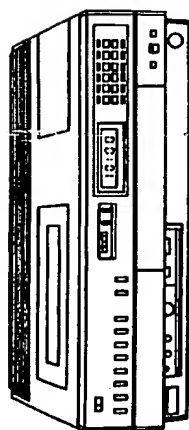
部の拡大正面図、第3図～第15図は同VTRのタイマー録画操作手順の説明図、第16図は本発明の一実施例における磁気記録再生装置の斜視図、第17図は同磁気記録再生装置のタイマー録画操作部の拡大斜視図、第18図は同タイマー録画操作部の拡大正面図、第19図は記録カードの斜視図、第20図は本発明の一実施例における磁気記録再生装置のブロック図、第21図～第23図は同磁気記録再生装置の設定時における表示の説明図である。

11…磁気記録再生装置本体、12…モニターTV、21…確認ボタン、22…記録カード、23…中央制御装置、24…カード読取り装置、25…表示手段、26…カーソル移動手段、27…読み出し手段、28…記憶装置、29…タイマー、30…制御部

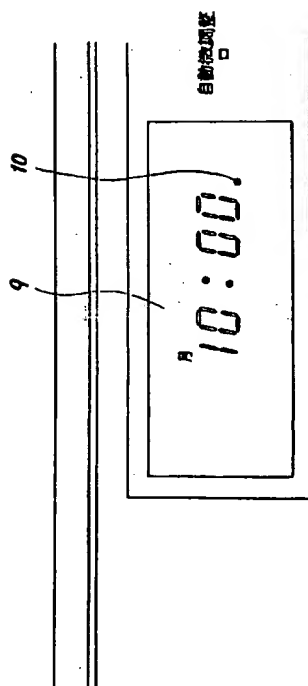
代理人 森 本 義 弘

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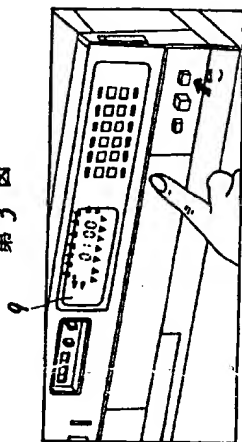
第1図



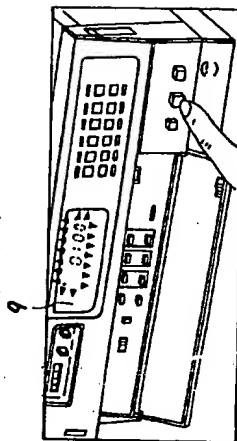
第2図



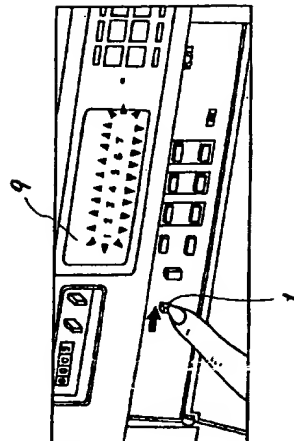
第3図

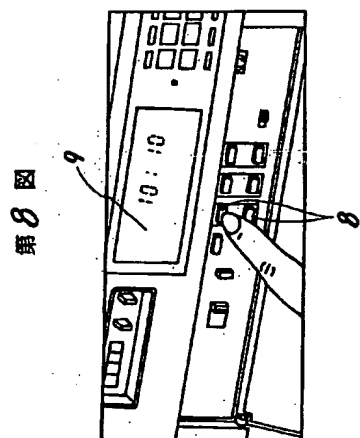
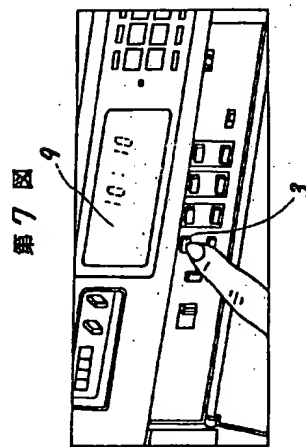
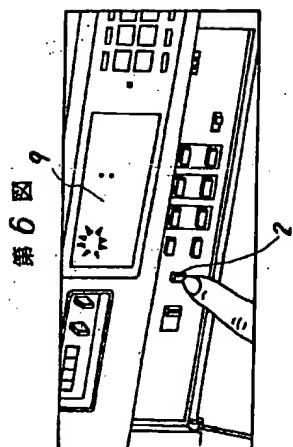
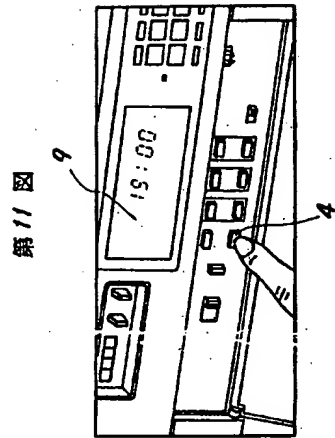
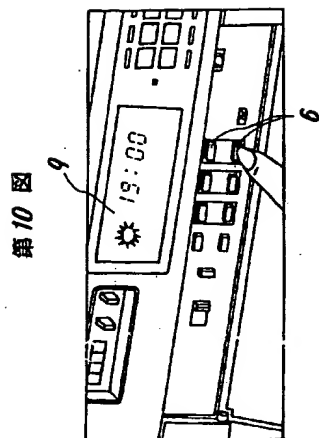
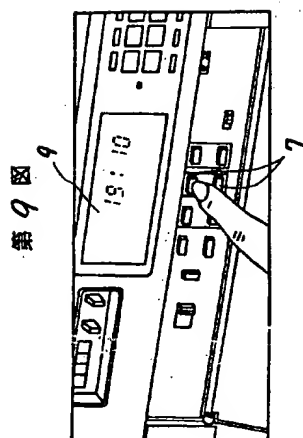


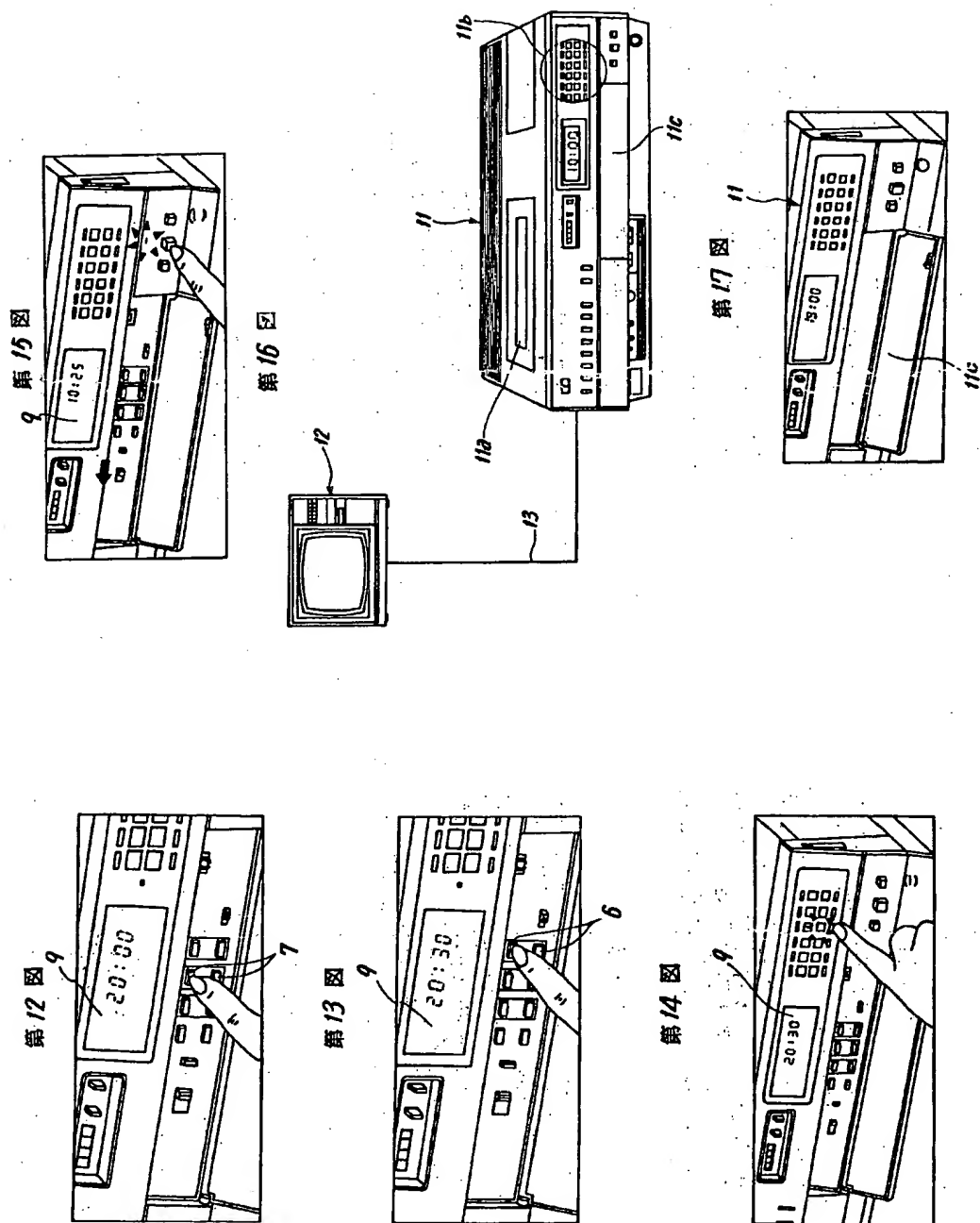
第4図



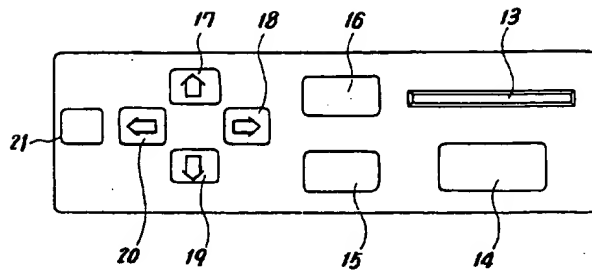
第5図



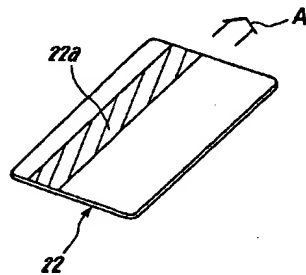




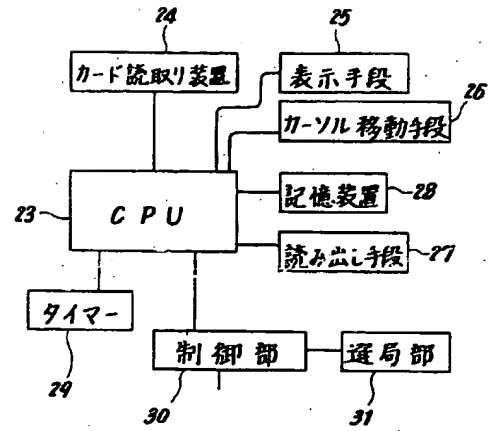
第18図



第19図



第20図



第21図

PI	5月58	6:00 ~ 6:30	朝の音	1ch
	5月58	6:30 ~ 7:00	子じ休養	1ch
	5月58	7:00 ~ 7:20	ニマス	1ch
			...	...

第22図

PI	5月58	6:00 ~ 6:30	朝の音	1ch
	5月58	6:30 ~ 7:00	子じ休養	1ch
	5月58	7:00 ~ 7:20	ニマス	1ch
			...	...

第23図

PI	5月58	6:00 ~ 6:30	朝の音	1ch
	5月58	6:30 ~ 7:00	子じ休養	1ch
	5月58	7:00 ~ 7:20	ニマス	1ch
			...	...
				*

CERTIFICATE OF ACCURACY

I, Yasuyuki Tateishi, of Tateishi Consulting, Inc. certify that I am well versed in Japanese and English Languages, and a professional translator in these languages, and have prepared the attached translation from Japanese into English accurately and faithfully to the original to my best knowledge and ability.

New York  
New York

  
Yasuyuki Tateishi

Sworn on this day of 14 April 1995  
before me, Yasuyuki Tateishi

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My Deal

is a procedure to be stored and to display the above-mentioned procedure to be stored on a display screen, a cursor moving means by which to freely move a cursor on the above-mentioned display screen, a reading means by which to read only a procedure to be stored which is recognized by the above-mentioned cursor on the above-mentioned display screen, a memory device by which to store the procedure to be stored which has been read by this reading means, a timer by which to read a procedure to be stored at a pre-determined date and time according to the procedure to be stored which has been stored in this memory device, a control section by which to operate the magnetic recording and reproducing apparatus itself according to the procedure to be stored which has been read by this timer, and a confirmation means by which to display on the above-mentioned display screen only the procedure to be stored which has been stored in the above-mentioned memory device, and that it is constituted in such a manner that after operating the magnetic recording and reproducing apparatus on a pre-determined date and time by means of the above-mentioned control section according to the procedure to be stored which has been stored in the above-mentioned memory device, the fact that the operation has been completed is displayed on the above-mentioned display screen with respect to the procedure to be stored for which

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(54) A Magnetic Recording and Reproducing Apparatus

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(22) Date of Application : September 13, 1983

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#### Specification

1. Title of the Invention

A Magnetic Recording and Reproducing Apparatus

2. What we claim is :

1. A magnetic recording and reproducing apparatus characterized in that it is equipped with a display means by which to reproduce a recording medium on which there

operations have been completed.

### 3. Detailed Explanation of the Invention

#### Utilization Fields in Industry

The present invention relates to a magnetic recording and reproducing apparatus.

#### Constitution of Conventional Examples and Problem Points Thereof

With a conventional, for example, video tape recoder for home use (hereinafter referred to as VTR), in using the important function called program timer recording which a home VTR has, it has been required to go through complicated procedures which we will explain below. Let us explain the procedures by referring to Fig. 1 through Fig. 15. Fig. 1 is an obliquely seen view of an ordinary home VTR, and Fig. 2 is an enlarged front view of the timer display section and timer operating section of the same VTR : 1 is an actuating switching switch, 2 is a program button, 3 is a record start button, 4 is a record end button, 5 is a timer brightness switching button, 6 is a minute set button, 7 is a time set button, 8 is a button setting day of the week, 9 is a digital display section, and 10 is a second flashing display element. Let us explain the operating sequence

by referring to an example. Let us assume that today is Monday, and we are to start recording of Channel 10 on 19 :00 on Tuesday of the first week (that is, next day), and end the recording on 20:30.

(1) After turning on the power switch of this machine, open the cover of the timer operating section.

(Fig. 3)

If the right upper section of the timer operating section is pushed, the cover opens slightly.

Start the timer operation after the cover opens completely.

If there was power outage of about 60 minutes or longer, or the power cord thereof was pulled out from a plug socket for about 60 minutes or longer, the display as shown flashed.

(2) Confirm that the timer set switch is "OFF". (Fig. 4)

(3) Open the timer section and turn the actuating switch to "Program reservation". (Fig. 5)

The display of the current time disappears, and 8 programs of "1, 2, 3, 4, 5, 6, 7 and every week" starts to flash on the lower side of the digital display section 9.

The flashing indicates that no program has been set (empty program).

The programs which have already been reserved remain

lighted without flashing.

In addition, any program for which recording has been finished also flashes. (However, a program which has been set to everyday recording or every week recording remains lighted.)

At this time, among the channel display lamps, a lamp of a channel which was last received flashes.

(4) Depress the program button 2. (Fig. 6)

Flashing of "1, 2, 3, 4, 5, 6, 7 and every week" disappears, "1" is displayed, and "Start" begins to flash at the left side of the digital display section 9. If the program button 2 is continuously depressed, "1, 2, 3, 4, 5, 6, 7 and every week. 1, 2, ... 10 weeks" are displayed in sequence.

(5) Depress the record start button 3. (Fig. 7)

Flashing of "Start" stops, and "0" which indicates today's day, current time, and programs of the 1st week flashes.

(6) Depress the day set button 8 and set it to "Tuesday". (Fig. 8)

If this button is continuously depressed, the day display progresses, and "00" indicating the 2nd week is displayed.

If you pass the desired setting, depress the return button of the day set button 6 and return to the desired setting.

(7) Depress the time set button 7, and set it to "19".

(Fig. 9)

(8) Depress the minute set button 6, and set it to "00". (Fig. 10)

If the minute set button 6 is not depressed, "End" does not flash, but it is possible to move to Operation (9) to set record end time.

(9) Depress the record end button 3 (sic), setting the record end time (20 : 30). (Fig. 11)

"Start" display disappears and flashing of "End" stops.

(10) Depress the time set button 7 to set it to "20". (Fig. 12)

Even if the day set button 8 is depressed, day does not change.

Depress the minute set button 6 and set it to "30". (Fig. 13)

In a case of program recording over 2 days, the display of day of the week automatically advances.

If the setting of time and minute of the record end time becomes before the record start time, the display of day of the week automatically advances to the next day.

A channel of a program which one wants to record (10 channel) is selected by the channel selection button of this machine. (Fig. 14)

The channel display button of the channel depressed begins to flash.

(Caution)

The channel display lamp (of the channel) currently being received remains flashing.

If one forgets selection of a desired channel, the channel currently being received is programmed.

In a case where the channel currently being received is to be reserved, even if the channel selection button is depressed, the channel display lamp does not flash, but it is possible to set a program.

The actuating switching switch 1 is switched to "Normal Operation", and the timer set switch is turned "ON".

(Fig. 15)

If a video cassette has been inserted in a cassette holder, the timer set lamp flashes.

If the "claw" of a video cassette is broken, or a video cassette has not been inserted, the timer set lamp flashes.

In this manner, one program has been set (the so-called timer reservation). After this, there is separately an operation by which to confirm whether or not the reservation thus made has been made as desired by an operator, that is, a confirmation operation, but this operation is omitted here.

In this manner, setting of a program timer in a conventional home VTR requires proper judgment and

operations, and if those operations are not carried out accurately according to the sequence, reservation as desired can not be made, and therefore, we can not state that all people of ordinary homes who are supposed to mainly use it can use it satisfactorily.

#### Purpose of the Invention

The present invention is to eliminate the above-mentioned conventional defects, and the purpose of the present invention is to provide a magnetic recording and reproducing apparatus which allows one to set recording procedures as represented by timer reservation easily and simply.

#### Constitution of the Invention

In order to achieve the above-mentioned purpose, the magnetic recording and reproducing apparatus in accordance with the present invention is a magnetic recording and reproducing apparatus characterized in that it is equipped with a display means by which to reproduce a recording medium on which there is a procedure to be stored and to display the above-mentioned procedure to be stored on a display screen, a cursor moving means by which to freely move a cursor on the above-mentioned display screen, a reading means by which to read only a procedure to be stored which is recognized by the above-

mentioned cursor on the above-mentioned display screen, a memory device by which to store the procedure to be stored which has been read by this reading means, a timer by which to read a procedure to be stored at a pre-determined date and time according to the procedure to be stored which has been stored in this memory device, a control section by which to operate the magnetic recording and reproducing apparatus itself according to the procedure to be stored which has been read by this timer, and a confirmation means by which to display on the above-mentioned display screen only the procedure to be stored which has been stored in the above-mentioned memory device, and that it is constituted in such a manner that after operating the magnetic recording and reproducing apparatus on a pre-determined date and time by means of the above-mentioned control section according to the procedure to be stored which has been stored in the above-mentioned memory device, the fact that the operation has been completed is displayed on the above-mentioned display screen with respect to the procedure to be stored for which operations have been completed.

#### Explanation of an Example Embodying the Invention

In the following, we shall explain one example embodying the present invention based on the drawings.

Fig. 16 is an obliquely seen view of the magnetic

recording and reproducing apparatus to which a receiver for monitoring purpose (hereinafter referred to as monitor "TV") is connected : 11 denotes a magnetic recording and reproducing apparatus unit, 12 is a monitor TV, 13 is a connecting cable by which to connect the magnetic recording and reproducing apparatus unit 11 and the monitor TV 12, 11a is a cassette mounting section which moves upward and downward in order to insert or remove a cassette (not shown in the drawing) which contains a magnetic tape, 11b is a channel selection section, and 11c is an operating section for timer recording : a state in which the above-mentioned section 11c is open, is shown in Fig. 17, and the operating section located inside the cover is shown in Fig. 18. In Fig. 18, 13 denotes a card insertion opening, 14 is a display button by which to display the recorded content of the recorded card, 15 is a recognition button, 16 is a cancellation button, 17 through 20 are cursor buttons by which to move the cursor on the screen of the monitor TV respectively in the directions of the arrows, and 21 is a confirmation button by which to display and confirm the content recognized by the recognition button 15. A recorded card 22 as shown in Fig. 19 is inserted into the above-mentioned card insertion opening 13. This recorded card 22 has a recorded section 22a indicated with the oblique

lines, and this recorded section 22a whose basic material is, for example, made of an organic colloid, has holes of a diameter of about 5 microns formed by a laser beam as data bits, is of a size of 12 mm x 75 mm, and contains information of about 5 million recorded. The arrow A shows the direction of insertion of the recorded card 22.

Fig. 20 is a block diagram of the whole system : 23 is a central control device (hereinafter referred to as CPU), the card reader 24, the display means 25 by which to display on the display, the cursor moving means 26, the reading means 27, the memory device 28, the timer 29 and the control section 30 are controlled by this CPU 23, and the selection section 31 and a magnetic recording section (not shown in the drawing) are connected to this control section 30. The above-mentioned display means 25 displays on the display screen, that is, the monitor TV 12, a procedure to be stored which has been reproduced by the card reader 24, the above-mentioned cursor moving means 26 moves freely the cursor on the above-mentioned display screen, the above-mentioned reading means 27 reads only the procedure to be stored which has been recognized by the cursor on the above-mentioned display screen, the above-mentioned memory device 28 stores the procedure to be stored which has been read by the above-mentioned reading means 27, the

above-mentioned timer 29 reads the procedure to be stored on the pre-determined date and time according to the procedure to be stored which has been stored in the above-mentioned memory device 28, and the above-mentioned control section 30 actuates the magnetic recording and reproducing apparatus 11 on the above-mentioned pre-determined date and time.

Next, let us explain the operations thereof. In a case of making timer recording, the cover 11c of the operating section for timer recording of the magnetic recording and reproducing apparatus unit 11 is first opened, and the recorded card 22 is inserted into the card insertion opening 13. TV broadcasting programs for one month which can be received in this region have been recorded on this recorded card 22. If after inserting the recorded card 22, the display button 14 is depressed, Page 1 of the content of the recorded card 22 appears on the screen of the monitor TV 12 as shown in Fig. 21. Here P1 indicates that the first page is displayed, and information on the TV programs is listed and arranged from the next line. (The lines after the third line are omitted from the drawing.) On the line next to the line of P1 are listed date, time, program title and selection channel number in this sequence from the left. In Fig. 21, the cursor is shown under P. Next, if the cursor button 17 is depressed, the cursor

moves down one line as it is depressed once. For example, let us consider a case in which timer recording is to be set on news on 1 ch from 7 : 00 to 7 : 20 on May 5th : the cursor is moved to the left side of the pre-determined line as shown in Fig. 22. Next, if the recognition button 15 is depressed, \* (asterisk sign) mark appears on the right side of this line as shown in Fig. 23, and the timer recording is set. If this is to be cancelled, the cursor is moved to the left side of the line to be cancelled, and the cancel button 16 is depressed. By this, the \* mark disappears, and the timer record setting is cancelled. Once the timer recording has been set, this information is stored in the memory device 28 of the magnetic recording and reproducing apparatus unit 11, this memory is retrieved on the pre-determined date and time by the timer 29, and the control section 30 actuates recording of the program of the pre-determined broadcasting station for a pre-determined period of time on the pre-determined date and time. In addition, if the confirmation button 21 is depressed after the setting, a \* mark appears on the right side of the line, only the content/contents (program/programs) whose timer recording has been set is/are displayed in sequence, and by this, one can confirm without fail what has been set for timer recording. Next, when the pre-determined time has elapsed and

recording of a certain content (program) among the contents (programs) set for timer recording has been completed, if the confirmation button 21 is depressed, a \* (asterisk) mark/marks appears/appear on the left side/sides of the line/lines of only the content/contents (program/programs) for which the above-mentioned timer recording has been completed, though only a content/contents (program/programs) are displayed for which timer recording has been set, and thus it is possible to confirm that recording of the program/programs has been completed.

In the above-mentioned Example embodying the present invention, we have explained an example in which use is made of a recorded card 22 as a recorded medium, but it is a matter of course that we may adopt various systems as to a recorded medium and a method of capturing the information : for example, capturing data to be recorded on a printed matter by means of a bar code reader.

In addition, in the above-mentioned Example embodying the present invention, we have explained a case in which it is applied to the so-called timer recording of a broadcasting program, and the magnetic recording and reproducing apparatus in accordance with the present invention may be effectively utilized, for example, in a surveillance system including a magnetic recording and

reproducing apparatus which is used in a bank, a store, etc. That is, in a VTR for surveillance which is connected to a plurality of cameras, if we record such a content that, for example, a camera at the front gate may be used from 8: 00 to 10: 00, a camera in the neighborhood of a back gate from 12 :00 to 13: 00, etc. in one day, an operator can select and prepare easily and simply an optimum surveillance routine, depending on a administrative nature of a surveillance system, changes in season, surrounding environmental conditions, or a change in machines used in the surveillance system, etc. In addition, this can be easily and simply changed if so required, and therefore the practical merits are extremely great.

#### Effects of the Invention

As explained above, with the present invention, since it is structured in such a manner that for example, a program list recorded on a record card may be displayed on a monitor TV, it may be allowed to be recognized by a cursor on the screen, the information may be stored in a memory device in a magnetic recording and reproducing apparatus by this, and a timer and a station selection section contained therein may be actuated in conjunction with this stored content, a recording procedure such as represented by the so-called timer reservation may be

easily and simply set by very simple operations. In addition, since it is possible to display only the content/ contents reserved by the confirmation means, the confirmation operation can be carried out easily and accurately without fail. Furthermore, since only a program for which the timer recording has been completed is distinguished by a special mark on a display screen, it is possible to recognize at a glance that that recording has been completed.

#### 4. Simple Explanation of the Drawings

Fig. 1 is an obliquely seen view of the appearance of a conventional home VTR, Fig. 2 is an enlarged front view of the timer display and timer operating section of the above-mentioned VTR, Fig. 3 through Fig. 15 are explanatory drawings of the timer recording operating sequence of the same VTR, Fig. 16 is an obliquely seen view of the magnetic recording and reproducing apparatus in one example embodying the present invention, Fig. 17 is an enlarged obliquely seen view of the timer recording operating section of the above-mentioned magnetic recording and reproducing apparatus, Fig. 18 is an enlarged front view of the above-mentioned timer recording operating section, Fig. 19 is an obliquely seen view of a recorded card, Fig. 20 is a block diagram of the magnetic recording and reproducing apparatus in

one example embodying the present invention, and Fig. 21 through Fig. 23 are explanatory drawings of the display at the time of setting of the above-mentioned magnetic recording and reproducing apparatus.

11 is a magnetic recording and reproducing apparatus unit, 12 is a monitor TV, 21 is a confirmation button, 22 is a recorded card, 23 is a central control unit, 24 is a card reader, 25 is a display means, 26 is a cursor moving means, 27 is a reading means, 28 is a memory device, 29 is a timer and 30 is a control section

Agent : Y. Morimoto

Fig. 1

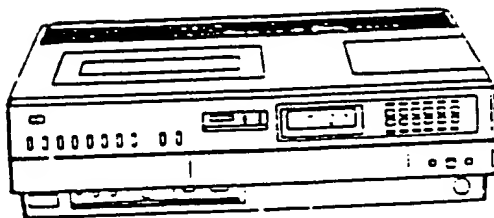
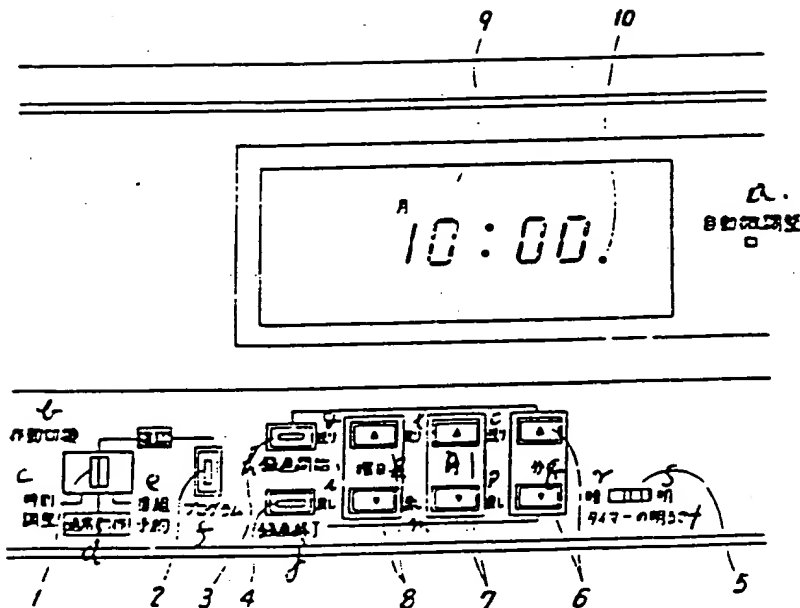


Fig. 2



key a. automatic fine adjustment, b. operation switching, c. time adjustment, d. normal operation, e. program reservation, f. program, g. forward, h. start of recording, i. rewind, j. completion of recording, k. day and date, l. forward, m. rewind, n. time, o. forward, p. rewind, q. minute, r. dark, s. bright, t. brightness of timer

Fig. 3

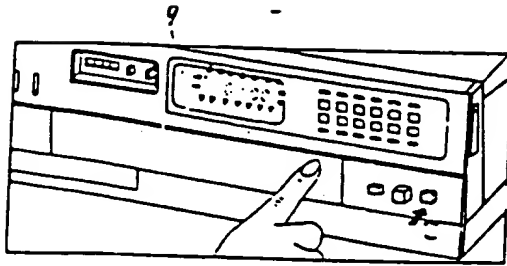


Fig. 4

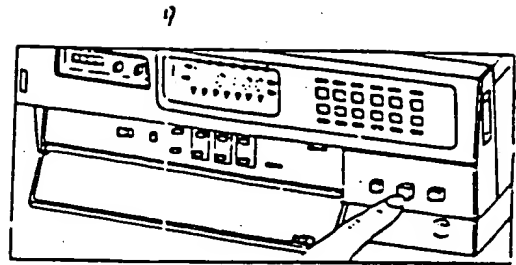


Fig. 5

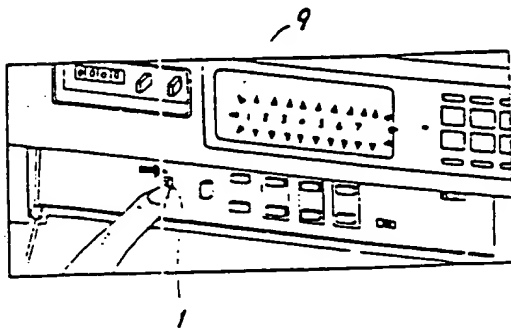


Fig. 6

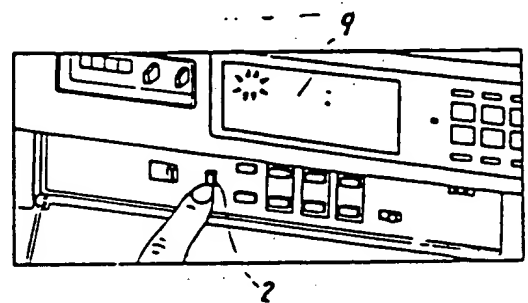


Fig. 7

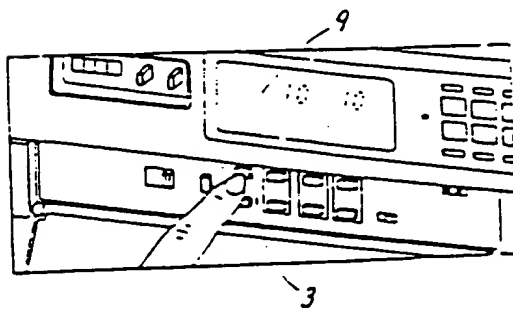
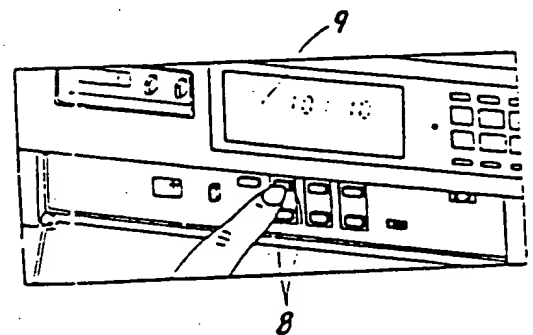


Fig. 8



21

Fig. 9

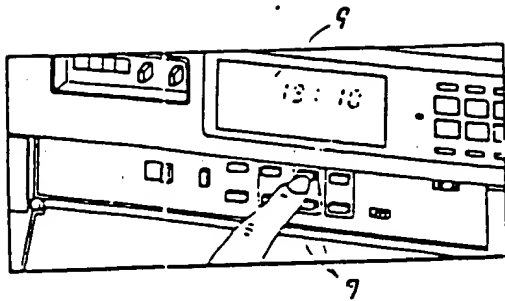


Fig. 10

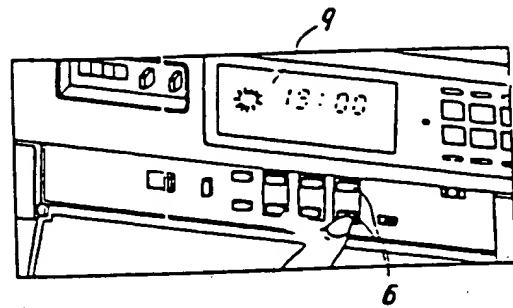


Fig. 11

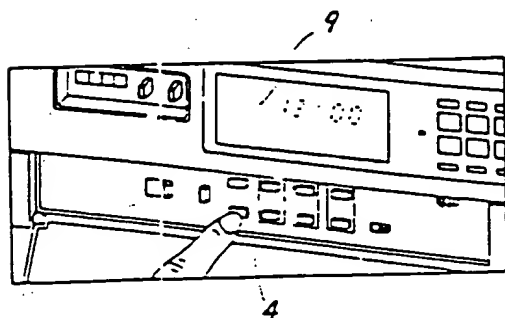


Fig. 12

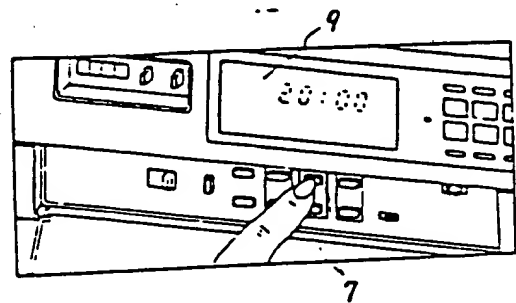


Fig. 13

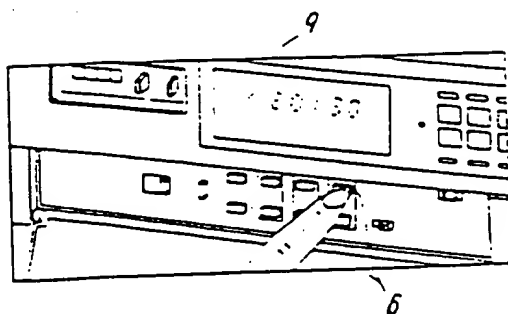


Fig. 14

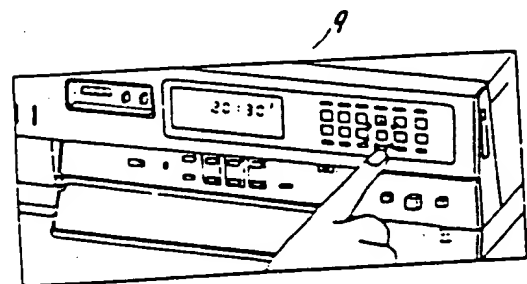


Fig. 15

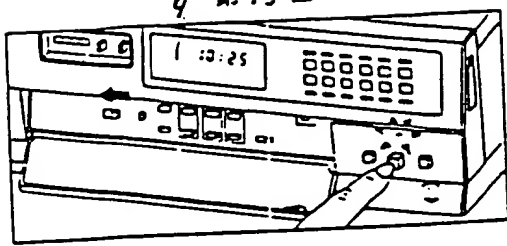


Fig. 17

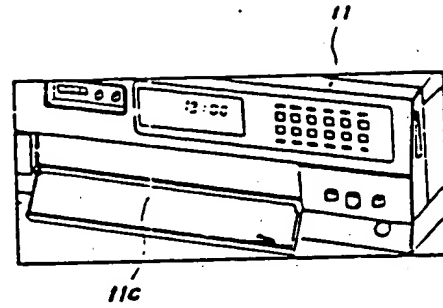


Fig. 16

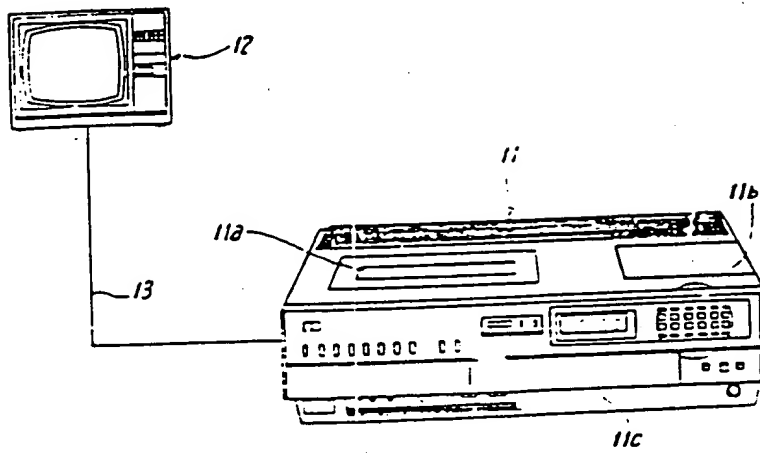


Fig. 18

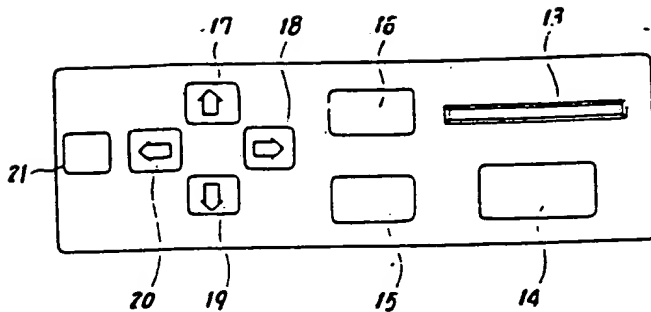


Fig. 19

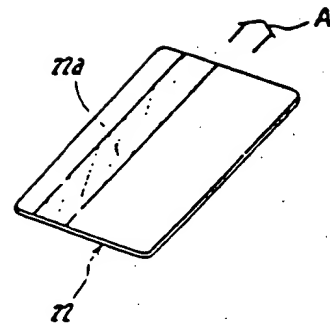
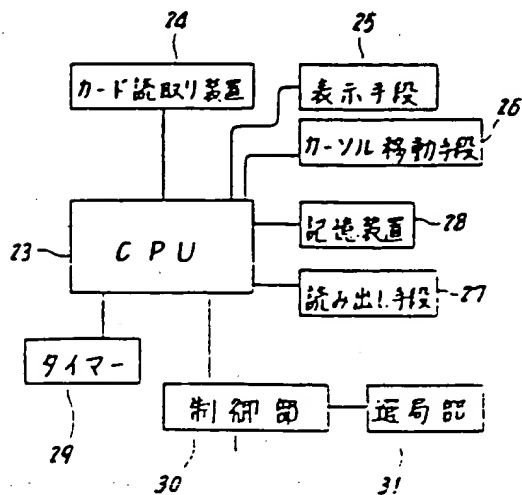


Fig. 20



key 24. card reader,  
25. display means, 26.  
cursor moving means, 27.  
reading means, 28.  
memory device, 29.  
timer, 30. control  
section, 31. channel  
selection section

Fig. 21

PIA			
SASB	6.00 ~ 6.30	朝のニュース	1 ch
SASB	6.30 ~ 7.00	テレビ体操	1 ch
SASB	7.00 ~ 7.20	ニュース	1 ch
エ			

key a. May 5, b. morning  
voice, c. May 5, d.  
television gymnastics, e.  
May 5, f. news

Fig. 22

PI	a				
5月5日	6:00 - 6:30	朝の声	e	1ch	
5月5日	6:30 - 7:00	テレビ体操	d	1ch	
5月5日	7:00 - 7:20	ニッポン	f	1ch	

key a. May 5, b. morning  
voice, c. May 5, d.  
television gymnastics, e.  
May 5, f. news

Fig. 23

PI	a				
5月5日	6:00 - 6:30	朝の声	e	1ch	
5月5日	6:30 - 7:00	テレビ体操	d	1ch	
5月5日	7:00 - 7:20	ニッポン	f	1ch	

key a. May 5, b. morning  
voice, c. May 5, d.  
television gymnastics, e.  
May 5, f. news